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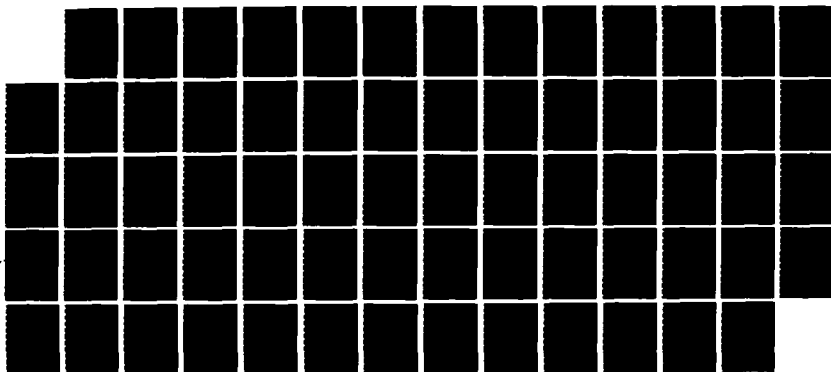
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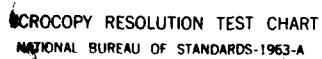
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Prescription for the Counterstroke:
The Airmechanized Division
at the
Operational Level of War

by
Major George S. Webb
Aviation

School of Advanced Military Studies
U.S. Army Command and General Staff College
Fort Leavenworth, Kansas

15 May 1986

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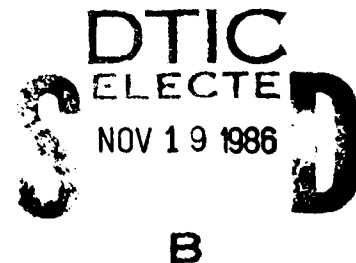
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ABSTRACT

PRESCRIPTION FOR THE COUNTERSTROKE: THE AIRMECHANIZED DIVISION AT THE OPERATIONAL LEVEL OF WAR, by Major George S. Webb, U.S. Army, 58 pages.

The purpose of this paper is to determine, at the operational level of war, those factors in the defense which support a successful defensive-offensive and in particular to examine those factors relevant to the NATO Center today. The study incorporates a theoretical examination of the mobile defense; looks at several operational level counterstrokes to distill from them their "historical constants"; applies those lessons to the defense of the NATO Center today; and briefly explores the concept of airmechanization.

The author concludes that attrition warfare is an increasingly unacceptable approach to combat for the U.S. Army and that a maneuver style of war is more appropriate, particularly in the NATO Center. If so, then a mobile defense is the most likely means of successfully executing such a maneuver system. Furthermore, the counterstroke, as an integral component of the mobile defense, capitalizes upon the tenets of initiative and agility.

The counterstroke force, however, requires a significant agility differential on the battlefield, most easily achieved through mobility. Since, as von Senger advises, all modern armies are mechanized or motorized, aviation offers the agility and mobility required of a counterstroke force. At the operational level of war, the author feels that this force should be an airmechanized division.

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When the enemy is in full career of advance, you can either throw troops in his path, and so be able gradually to bring him to a standstill, or you can check him by a truly strategic counterstroke. The former way will sometimes have the safer look, but can usually end only in a deadlock; the latter may turn the tables completely, causing such disturbance in the enemy's warfare as to snatch from him every shred of initiative. ⁽¹⁾

Army & Navy Gazette, 1918

I. INTRODUCTION

As the passage above suggests, the execution of a counterstroke has been long recognized as one phase of a defensive-offensive which promises to pay rich dividends to the defender if properly performed. Indeed, there are many who argue that such a measure, Clausewitz's "flashing sword of vengeance," is the strongest form of war. The purpose of this paper is to determine, at the operational level of war, those factors in the defense which support a successful defensive-offensive and in particular to examine those factors relevant to the NATO Center today.

The hypothesis of this paper is that at the mid-to-high intensity level of operational warfare, the counterstroke can best be executed by an air mechanized force, most likely a division, working as a maneuver unit. Furthermore, two critical factors necessary for a successful counterattack are firepower and agility which, often observed as counterbalancing, will be found in the maneuver elements of Army aviation today and in the future. While his admonition may be over a century old, the words of General Nathan Bedford Forrest yet ring true, particularly in the counterattack, when he advises, "Git thar fustest with the mostest."

The methodology used in this paper will be straight-

forward. First, an examination will be made of the various elements of a mobile defense in order to build a framework for our study and to define such concepts as counterattack, counterstroke, and defensive-offensive. Second, several operational level counterattacks will be examined in order to distill from them their "historical constants." Third, the lessons derived from this examination will be applied to the techniques of an operational defense today, using the region of the NATO Center as a laboratory. Finally, the concept of an air mechanized division will be briefly studied as we practice mobile defense today and peer into the future to anticipate the battlefield of tomorrow.

Counterattack is the soul of defense. Defense is a passive attitude, for that is the negation of war. Rightly conceived it is an attitude of alert expectation. We wait for the moment when the enemy shall expose himself to a counterstroke, the success of which will so far cripple him as to render us relatively strong enough to pass to the offensive ourselves.

Julian Corbett: Some Principles of Maritime Strategy, 1911⁽¹⁾

The race is not always to the swift nor the battle to the strong, but that's the way to bet.

Anonymous. ⁽²⁾

II. PROBLEM ANALYSIS

It is the duty of a prudent soldier continually to assess and evaluate his doctrine in light of the ever-changing tools and styles of war. This task is particularly relevant as the US Army embraces the doctrine of AirLand Battle, for in order to know where one is heading it is often necessary to know where one has been. First, having at least suggested that the nuclear option might not be the desired course for a mid-intensity war, the US and NATO (and Soviet, for that matter) doctrine writers have called for a reexamination and reapplication of the operational level of war. And second, recognizing the unlikelihood of success in a mid-intensity attrition-styled conflict with the Soviets, the US experts are calling for a more maneuver (or mobile) oriented operational style of war-fighting as a reasonable substitute for the firepower-attrition of American tradition.⁽³⁾ Indeed, there is ample evidence that the US Army has not applied a maneuver-driven doctrine at the operational level since the US Civil War, and even then only when conducted by large forces of cavalry. As a result, this shift to a

maneuver-mobile style is not one which is made easily, particularly with respect to the conduct of the counterattack.

In an address in 1953, Colonel Vincent Esposito, West Point professor of military history, acknowledged, "A defensive-offensive, or counterattack, policy is regarded by some military historians to be the strongest form of war."⁴ The precedent was well explained by Carl von Clausewitz in his interpretations of war. The defense, he said, is the strongest form of war, for the defender gains advantage from familiar terrain, additional time for preparation, popular support, and preservation of energy from waiting.⁵ Additionally, the attacker grows weaker for several reasons: he must stop to attack and clear enemy forts and positions; his lines of communication become both longer and more threatened as he proceeds ever-deeper into hostile territory; the defender often receives external assistance from allies; and the defender becomes increasingly tenacious as the attack into his homeland progresses.⁶ The attacker does have one clear advantage, however, in the privilege of concentric attack, for he can choose the time and place for the attack and mass his forces accordingly.⁷ As the attack continues, Clausewitz says, the advantage of concentric attack possessed by the attacker passes to the defender. With his relative power gradually diminishing, the attacker ultimately reaches his "culminating point" where he is advised to go on the defensive himself, considering his attack spent.

The challenge, says Clausewitz, is that while the defense offers greater advantages in war, one cannot win on the defensive. To achieve victory "thus necessitates an attack.

either initially or in the form of a counter-attack from the defence," explains Roger Leonard. "The choice of the moment of counter-attack depends on 'discovering the culminating point by the fine act of judgment.'"⁽⁸⁾ To this end, Clausewitz advises that the defense is not a fixed, static action, but rather a "shield of blows":

A swift and vigorous transition to attack--the flashing sword of vengeance--is the most brilliant point of the defense. He who does not bear this in mind from the first...will never understand the superiority of the defensive.⁽⁹⁾

Inherent within the doctrine of the defensive-offensive, and maneuver warfare as well, is the notion of a mobile defense based largely on the counterattack or counterstroke. As the passage from Clausewitz suggests, such a doctrine would be rich in initiative and agility, two of the tenets of the US Army's AirLand Battle.⁽¹⁰⁾ A study of history demonstrates that, at least at the tactical level, the counterattack is the legacy of the cavalry, born of its dramatic mobility.⁽¹¹⁾ General von Senger und Etterlin has stated that during World War II, the German army was successful in its maneuver because it understood how to use the two tiers of mobility: the foot infantry which had a speed of 4 km per hour and the mechanized-motorized forces, such as the panzers, which moved at 20 km per hour. The dilemma today, he says, is that most modern armies are universally mechanized or motorized, leaving no second tier. "This state of affairs means that an army's mobility is basically uniform....As a result the commander in the field no longer has an element in his force which, although not large in terms of numbers, stands out from the rest in mobility and fighting power."⁽¹²⁾ He goes

on to suggest that aviation is the new second tier of mobility on the battlefield today. (13)

If General von Senger's hypothesis is correct, then it may be true that Army aviation is the only viable counterattack force in a clash between two motorized or mechanized armies, particularly at the operational level of war. Indeed, a unit such as an airmechanized division, which will be explained later, might be the optimum force for such a task, particularly in a forward defense such as NATO's in which terrain cannot be casually yielded in order to set the conditions for a counterstroke. But first let us examine the concept of a mobile defense so we can search for our historical evidence.

Petty geniuses attempt to hold everything; wise men hold fast to the key points. They parry great blows and scorn little accidents. There is an ancient apothegm: he who would preserve everything, preserves nothing. Therefore, always sacrifice the bagatelle and pursue the essential.
Frederick the Great: Instructions for His Generals, 1747 '1'

A passive defense is always pernicious.
Jomini: Précis de l'art de la Guerre, 1838 '2'

III. BACKGROUND AND EVIDENCE

A. The Mobile Defense

One of the difficulties of analyzing counterattacks, as well as the mobile defense, is the absence of specific terms to describe them accurately. Within the US Army's lexicon, for example, counterattacks can be classified as: force-oriented and terrain-oriented; deliberate and local; by fire and by fire-and-maneuver; and planned, situational, and desperation.⁽³⁾ Therefore it is appropriate to examine the counterattack within the entire spectrum of maneuver theory and mobile defense, particularly when observing the operational level of war.

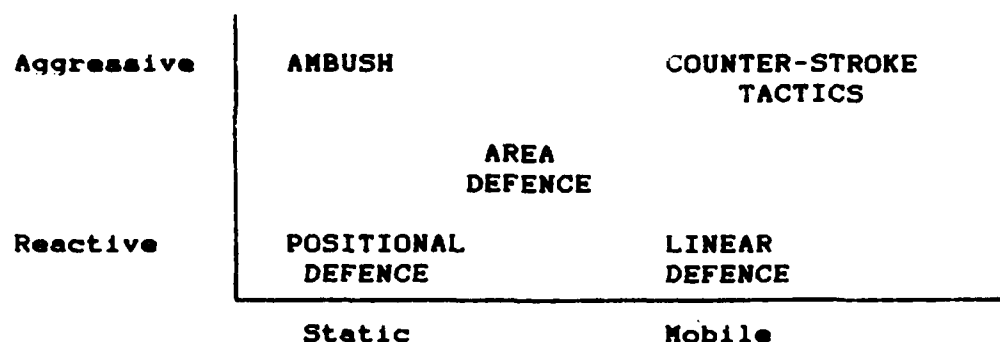
It can be argued that there are two fundamental styles or theories of war: attrition and maneuver. The former "emphasizes directly engaging the main body of the attacker's forces and relying on firepower to wear down the opponent in a series of slugging matches. Maneuver warfare, on the other hand, calls for the defender to avoid bloody battles and to maneuver his forces so that they can strike at the attacker's Achilles' heel."⁽⁴⁾ Mao Tse-Tung argued that, "Generally speaking, mobile (maneuver) warfare performs the task of

annihilation, positional warfare performs the task of attrition.... Concentration of forces and the use of encircling and outflanking tactics are the prerequisites for mobile warfare, that is, for quick-decision offensive warfare on exterior lines. All this is aimed at annihilating the enemy forces." (3)

Richard Simpink has developed a model of maneuver theory, on the one hand, which is loose-reined, dynamic, and psychological, and attrition theory, on the other hand, which is tight-reined, positional, and physical. (4) A maneuver theory demands a price, for "under manoeuver theory, offence and defence are not the opposites they are under attrition theory but points, or rather arcs, on a continuum. Offensive defense merges into defensive offense and vice versa." (5)

Thus the nonlinear, chaotic, and lethal battlefields anticipated in the US Army's FM 100-5, Operations, merge well into Simpink's concept of maneuver warfare. FM 100-5 continues by describing maneuver as "the dynamic element of combat--the means of concentrating forces at the critical point to achieve the surprise, psychological shock, physical momentum, and moral dominance which enable smaller forces to defeat larger ones." (6) Despite its tradition within the US Army, General Donn Starry states that "attrition warfare - the wearing down of an enemy by continuing application of massive forces and fires...is no longer an appropriate operational concept for military forces of the Free World powers," particularly when confronting the superior numbers of the Warsaw Pact. (7)

It is therefore appropriate that we look at the mobile defense as a component part of maneuver theory. Colonel J.R. Alford has developed a spatial model of it in his manuscript entitled "Mobile Defence, The Pervasive Myth"⁽¹⁰⁾:



With this model one can clearly see the various techniques of the defense as they relate to aggressiveness, or in the US Army's tenet of AirLand Battle, initiative. According to Alford, there are four criteria which must be present in order to have a mobile defense:

First, the intention of the defending commander should relate to the destruction of the opponent's will or capacity to engage in offensive warfare...rather than retention of a line or position. Secondly, the destruction must be by counter action of a positive kind against the attacking or advancing forces (after they have been committed to battle.) Thirdly that the dispositions and grouping of the defending forces should leave no doubt that any occupation of ground is a means by which that destruction can be more readily effected rather than an end in itself. Finally, there should be some indication that it is the intention of the defence to impose conditions on the attacker whatever move he may make and thereby remove from him the initiative that rested with him at the outset. If we are able to see most, if not all, of these criteria fulfilled by examining the situation prior to the action, we can say that it was the defending commander's intention to conduct a mobile defence.⁽¹¹⁾

While it is outside the scope of this paper to develop

all of the defensive techniques found in Alford's model, it is necessary to focus on two elements of the mobile end of his chart, the counterattack and the counterstroke. According to Alford, the counterattack, by definition, involves a certain degree of containment of the attacking force; it is "the use of positional defence against enemy penetration coupled with counter-attacks against the contained enemy from a flank by a force earmarked for the purpose." The execution of a counter-stroke, on the other hand, involves the "encouragement of enemy penetration by tactical withdrawals so as to create a situation for an effective flank attack by concentrated armour."⁽¹²⁾ Indeed, Alford's distinction between the counter-attack and the counter-stroke is quite similar to Manstein's forehand and backhand, respectively. These definitions will be used throughout this paper according to Alford's model.

B. The Tactical Constants

Before examining the mobile defense at the operational level of war, the reader should be aware of the historical constants of the counterattack at the tactical level developed in an earlier study. Briefly stated, there are four constants present in all successful force-oriented counterattacks or counterstrokes:

1. The counterattack must capitalize upon some error or inherent weakness brought about by the enemy's attack posture.
2. Timing is a crucial component.
3. Counterattacks manifest Sun-Tzu's cheng-ch'i relation-

ship in which there is a strong, fixed component around which a more mobile force maneuvers.

4. The counterattack or counterstroke force must have a marked agility over other forces present. The key component of this agility is a significant mobility differential. Historically, the cavalry, on horseback, possessed the mobility differential enabling it to be a counterattack force. In World War I, particularly on the Western front, the horse was no longer survivable and the counterattack waned. The Second World War brought the tank and a concomitant resurgence of mobility and counterattacks. Now, with the universal development of mechanized forces in all modern armies, the mobility differential required of a counterattack force can be found in the army combat aviation.⁽¹³⁾

C. Napoleon and the Battle of Austerlitz (Map A)

It is likely that the Emperor Napoleon was the first Great Captain truly to introduce the operational level of war, so it is appropriate that we should examine one of his most stunning victories-and counterattacks-in the Battle of Austerlitz in 1805. Napoleon's defensive technique, in its simplest sense, was to take advantage of combined arms to stop an opponent's attack and, when the enemy was halted, to counterattack with his reserves.⁽¹⁴⁾ His army, as were many in Europe at the time, had developed its cavalry into three types: the dragoons, who would fight dismounted; the light cavalry (chasseurs and hussars) normally employed for reconnaissance, security, and pursuit; and the cuirassiers, or

heavy cavalry--the force-oriented shock and destroyer force capable of the massed charge.⁽¹³⁾ At the operational level, Napoleon would maneuver to cause the enemy to weaken a portion of its line. "In doing so...Napoleon would then hurl his own husbanded reserve, the masse de rupture, to attack the weakened sector and break through."⁽¹⁴⁾

At Austerlitz, Napoleon's force of 73,000 was faced by an Allied army under Czar Alexander of almost 86,000. Napoleon gave the appearance of wishing to avoid battle, expecting the Allied army then to advance uncautiously to cut off his retreat. He directed his right flank commander, Marshall Davout, to appear weak in the south and to allow himself to be pushed back in order to lure the enemy into the marshy area near the frozen ponds on the extreme right flank. In fact, Napoleon even abandoned the dominating Pratzen Hills in the center in order to lend further credence to his deception plan and feigned weakness.

Napoleon reasoned that if the allies decided to attack his weak right, they would place their greatest strength on their left or southern sector. In doing so their own center and right would be weakened. It was the creation of a weakened sector, particularly in the center, that was the main object of Napoleon's elaborate deception plan. He would create a masse de rupture in his center, break through the weakened allied center on the Pratzen Heights, and split the allied army in two.⁽¹⁵⁾

And so it happened, largely according to plan. The allies were lured into the south, weakening their center through which Napoleon's reserve counterattacked. Soult's corps led the infantry attack, gaining surprise from the fog which masked its movement and mobility through its haste. Although the Austrian and Russian cavalry attempted to

counter this rupture, the move was piecemealed and uncoordinated and to little avail. Finally, through this breach came the French corps of Oudinot and Bernadotte as well as the Imperial Guard commanded by Bessieres, taking advantage of his downhill counterstroke against the Russian cavalry.

Bessieres, who was now making a reputation for himself as a clever handler of heavy cavalry, led the counterattack in person and his horse grenadiers, thrusting their sabers into the bodies of their opponents, shouted: "We'll give the ladies of St. Petersburg something to cry about."⁽¹²⁾

One can probably best summarize the outcome of this "operational masterpiece" with the words of one historian: "By nightfall the allied army ceased to exist."⁽¹³⁾ Napoleon had not only witnessed a flaw in his enemy's attack; he had, quite simply, created it. He further deployed his forces to establish more solidly held positions around which his counterattack could maneuver. His sense of timing in directing the counterattack was classically, brilliantly Napoleon. And he achieved his agility through the mobility of his cavalry, the advantages of surprise and terrain, and the leadership and flexibility at the heart of his corps system.

D. The U.S. Civil War and the Second Bull Run (Map B)

Half a century later, the American Civil War provided rich lessons in warfare to those who heeded them. The Battle of 2nd Bull Run (or 2nd Manassas) serves as a superb illustration of how a counterattack (by the Union forces) can fail and how another (by the Southern forces) can succeed. In this case Confederate agility was to prove decisive in a

battle which is "one of the best examples in history of a counterattack, launched exactly at the right moment."⁽²⁰⁾

When Stonewall Jackson threatened the Union's lines of communications, and with another Confederate force under Longstreet some 25 miles away, General John Pope developed a plan of placing his Union army between the two Confederate units and defeating them separately, a technique which had served Napoleon so well in Europe. Pope, however, was to make several errors which would cost him the battle: the force he sent to dislodge Jackson was too small for the task; he failed to ensure he controlled the terrain which could have prevented Longstreet from coming to Jackson's aid; and he piecemealed out his cavalry to his subordinates, thus leaving himself no mobile operational reserve.⁽²¹⁾ Jackson, his initial mission complete, took up good defensive terrain on Stony Ridge in anticipation of a Union attack. Meanwhile, "Pope had lost control of the situation. Since dawn he had been marching his forces to and fro in vain attempts to locate and attack Jackson. With no cavalry under his direct control to secure the information he needed, he made decisions based on erroneous or imaginary concepts."⁽²²⁾ As a result, when Jackson's defenses were located, the Union troops were both exhausted and disorganized. But Pope's more serious error was in believing that the other Confederate force, Longstreet's, was still being held out of action by the Union economy of force. In point of fact, on the morning of 29 August, Longstreet's "troops were less than ten miles from those of Jackson, and between them were only two worn

down brigades of Union cavalry." (23)

On the 29th and the 30th, Pope's forces finally fixed Jackson but failed in dislodging him, piecemealing the Union attacks in an uncoordinated fashion, haphazardly throwing brigades and divisions against him. Probably Pope's greatest error was his overconfidence; for most of the fight he continued to believe that Longstreet would not be a factor, and at one point on the 30th he was convinced the Confederates were retreating. Finally, at midday on the 30th, Lee observed the Union forces, in the open, once again attacking Jackson's position. He ordered Longstreet, now joined up, to counterattack by aligning himself on Jackson's right and swinging round to hit Pope's force on its left flank. At 4:15 PM the counterattack began, first from Longstreet's strong, well-placed artillery and then, when the Union left had been broken, from Longstreet's five fresh divisions against the exhausted Union soldiers. Lee's army won a resounding victory from a counterstroke born of agility, boldness, surprise, and timing on the part of the victor and benefited from overconfidence and poor information on the part of the vanquished.

E. Tannenberg and the Masurian Lakes (Maps C & D)

The German army would attempt the same operational technique in a mobile defense in 1914 that Pope tried in 1862. It became known as the Battle of Tannenberg, and the Kaiser's forces would be far more successful. According to one author, "in numerical terms and, arguably, in terms of historical significance also the greatest mobile defensive

action ever fought was that of the annihilation of the Russian 2nd Army at Tannenberg" in August of 1914. (24) The German 8th Army, under the command of General Hindenberg, found itself opposed by two hastily mobilized Russian armies, the 1st and 2nd, led by Generals Rennenkampf and Samsonov respectively. The forces were such that the German 8th Army was weaker overall than the total Russian force but stronger than each Russian army separately. Following the inconsequential Battle of Gumbinnen, the Germans were forced either to withdraw to the Vistula River or conduct a determined, mobile defense with an operational plan of attacking and defeating each Russian army individually. The decision, credited to various officers, was to choose the latter course.

The Russians were in all respects their own worst enemies in the campaign. Hasty mobilization had left their armies ill-equipped and poorly controlled. Their cavalry was malutilized and failed to maintain contact with the 8th Army. Their fear of a German invasion had kept the Russians from developing whatever roads and compatible rail lines they might have otherwise developed, so that once they took the offensive, they were slowed tremendously. Furthermore, the physical location of the Masurian Lakes, as well as the personal dislike between Rennenkampf and Samsonov, precluded any mutual support between the 1st and 2nd Armies. Says Barbara Tuchman, "as the two Russian Armies were neither in contact nor moving toward each other, the word 'combined' was hardly applicable." (25)

The Russians felt that they could create a double envel-

opment of the German 8th Army and pressed their attack accordingly. The haste was not all self-generated, for "to relieve the pressure upon them in the West the French instructed their ambassador to 'insist' upon the 'necessity of the Russian armies prosecuting their offensive a outrance toward Berlin.'" (26) In addition, Jilinsky, the overall Russian commander, told Samsonov that the Germans were retreating, "leaving only insignificant forces facing you. You are therefore to execute a most energetic offensive." (27)

"What, in the context of a study of counter-strike tactics is...relevant and...durable...is that the German 8th Army was in a position to take advantage of a relatively fleeting opportunity for a counter-stroke precisely because they maintained balance and control and were in possession of a fairly clear picture of what was happening and what might conceivably happen." (28) With good intelligence and flexible leadership born of the General Staff, the Germans had the agility to execute a mobile defense. Furthermore, they had the advantage of interior lines and a railroad system which allowed them to shift forces along the frontier.

In the event, the German commander took risk in the north by leaving but a cavalry division to face Rennenkampf's army while he shifted the remainder of his force to the south to conduct a counterstroke against Samsonov. He directed a rail move of 250 kilometers by two corps in two days, as well as having two more corps march to the south. As a result, Hindenberg was able to mass a superior force in order to defeat the Russian 2nd Army. When the 3-day fight was over,

the Russians were victim to "a straightforward slaughter. The ten-mile-wide trap east of Tannenberg was turned into a vast abattoir of dead and dying horses and men." (29)

The ensuing shift and battle against Rennenkampf's army was also clearly in the Germans' favor, though his eventual retreat prevented his army's annihilation. In a situation not unlike that of NATO today, the Germans were not prepared to sacrifice territory. Indeed, "to yield East Prussia would be to suffer a tremendous moral defeat and lose the most valuable grain and dairy region as well." Additionally, such a withdrawal would hazard the Vistula River defenses and hence Berlin and Vienna. (30) Thus the Germans had to muster superior agility and mobility in order mass greater combat power in the counterstroke while they let the Russians advance. "It is hardly surprising that the Russian forces were outmanoeuvred operationally and tactically and it was this that decided the outcome rather than any marked differences in fighting ability once the battle had been joined." (31)

F. Manstein's Winter Campaign (Maps E, F, & G)

In the shadow of Stalingrad on the Eastern Front of World War II, German Field Marshal von Manstein was able to execute a brilliant operational mobile defense, culminating in a dramatic counterstroke. Referred to as the Winter Campaign, this operation was an answer to the Soviet offensives named GALLOP and STAR which began in January, 1943. After assisting in the extrication of Army Group A from the

Caucasus, Manstein, as commander of Army Group Don, was faced with continuing Soviet pressure and numerous penetrations all along his front. Recognizing his inability completely to secure his lines, particularly without strong reserves, Manstein developed a plan by which he would shorten his front by conducting a withdrawal from the Don to the Mius River. Though it was no easy feat to convince Hitler to yield ground, Manstein was ultimately able to gain his approval. Manstein proposed to have Army Detachment Hollidt hold the Mius River line and the First Panzer Army hold the middle Donets region. This arrangement would free the Fourth Panzer Army to serve as a reserve capable of executing a counter-stroke. Manstein's "plan, once formulated, capitalized on superior German mobility and command flexibility. In essence, by permitting an unhindered Soviet advance in some sectors, by holding tightly to a few critical sectors, and by deliberately taking the calculated risk of reducing German forces to a minimum in other sectors, Manstein intended to generate sufficient operational reserves to mount a coordinated counteroffensive." (32)

For his part, the Russian commander, Vatutin, was convinced the Germans were withdrawing to the Dnepr and so pressed his offensive in anticipation of an encirclement. Indeed, by mid-February the situation turned grim for the Germans as the Russians formed a strong penetration from the area of Army Group B (to Manstein's north) and threatened to strike the left rear of Army Group Don, smashing it against the Sea of Azov. Nonetheless, Manstein later observed, "And

yet, paradoxically, it was in this very culmination of the crisis that the germs of a counterstroke lay." (33)

Having husbanded his most mobile forces as his reserve, the Fourth Panzer Army, he was able to execute a dramatic thrust into the Russian penetration; soon he was able to have the First Panzer Army assist in the counterstrike, employing the panzer divisions with "versatility" as they "dodged from one place to the next." (34) Capitalizing upon the mobility of his tank forces, the better German road and rail lines, and the routinely more agile German command and control, "the main purpose behind Manstein's concept was to develop a war of maneuver, at which the German units and commanders maintained a significant superiority over the Russians even to the end of the war. In short it was to be the German quality against Russian quantity." (35) The Russian offensive, "launched in January in a blaze of optimism, expired in March as the coherence of the Southwestern Front exploded in a mass of sparks under the blows of Manstein's counteroffensive." (36) Says von Manstein in an apt summary of the war in the East:

Now it is generally recognized that defence is the stronger of the two forms of fighting. This is only true, however, when the defence is so efficacious that the attacker bleeds to death when assaulting the defender's positions. Such a thing was out of the question on the Eastern Front where the number of German divisions available was never sufficient for a strong defence to be organized. The enemy, being many times stronger than we were, was always able, by massing his forces at points of his own choice, to break through fronts that were far too widely extended....Only in mobile operations could the superiority of the German staffs and fighting troops have been turned to account...." (37)

G. The Counterstroke Failure: Normandy (Map H)

The German inheritors of the mobile defense played on the Eastern Front were likewise challenged in 1944 with the plan for the defense of France. On the strategic level, "even when the threat of invasion could no longer be discounted, France was still used as a pool of manpower, a 'Peter' who could safely be robbed to pay the shattering price increasingly exacted by growing Russian strength, the great width of the Eastern Front and the severity of the conditions. 'Paul' seemed by far the most pressing creditor and continued so to seem even when the fears of invasion had become reality."⁽²²⁾ Field Marshal von Rundstedt, as Commander in Chief West (Ob. West) was responsible for the overall defense of France. The resulting controversy developed between himself and Field Marshal Rommel, his immediate subordinate and commander of Army Group B where the Normandy invasion took place.

To defend France, von Rundstedt had 60 divisions (of which over half were understrength, refitting units), only ten of which, however, were mobile panzer divisions. He had to defend 2,600 kilometers of coastline against the threat of an Allied invasion which could come anywhere. Furthermore, in accordance with Hitler's Directive No. 51, the Russian Front was receiving first priority on men and equipment. Von Rundstedt had a most formidable challenge.

His plan hinged on a full application of the mobile defense. "All his experience told him that fixed defenses (it was he who had shattered the Maginot Line) could be pene-

trated with surprising ease, that the 50 to 60 'very scratch' coastal divisions could not hope to hold the line of the coast...and therefore a 'mobile' defence provided the only alternative."⁽³⁹⁾ He preferred, therefore, to place strong defenses along the shores, but also to retain strong "mobile reserves further inland but still capable of dealing a crushing blow against the Allies once they had landed."⁽⁴⁰⁾ Additionally, von Rundstedt was concerned about the potential firepower of Allied naval gunfire; his protection would be to conduct his counterstroke far enough inland to be out of range. He was under no illusion about the threat of Allied air superiority, but he felt that by conducting his moves at night, his reserves would have adequate mobility to attack the landing perimeter within a week. He did not oppose a strong defense on the beaches, and "he did not reject the Atlantic Wall in principle, but he did not attach as much importance to it as did Hitler. Von Rundstedt was convinced that the fortifications, no matter how strong they might be, had lost their significance in modern warfare and would not be sufficient to prevent well-armed forces from effecting a landing."⁽⁴¹⁾ His defensive plan required good intelligence so he could identify the main effort, strong and mobile operational reserves, and concentrated control to ensure the agility of the panzer divisions.

Rommel, on the other hand, was skeptical about the virtue of a mobile defense, dependent upon large reserves, in light of the Allied air superiority which he had observed first hand in North Africa. He was convinced that the Allies

had a significant capability to bomb roads and bridges to block the movement of these reserves, and to interdict them as they deployed as well. Indeed, he had been present as an observer on the 7th of May, 1944, when eight Thunderbolt fighter-bombers easily destroyed a 725 foot steel girder railway bridge across the Seine at Vernon.⁽⁴²⁾ Rommel had become a believer "that a combination of minefields and anti-tank weapons--both in sufficient quantities--could defeat armoured operations."⁽⁴³⁾ Furthermore, having fought the Americans and British, Rommel was aware of the Allied tendency toward a slow, deliberate advance (Montgomery's desire to "tidy up the battlefield") and felt that there would be little opportunity for a German counterstroke against a rapidly attacking thrust. His proposal was to increase the static defenses along the beaches and to place the available panzer divisions (which of necessity had to come out of the hide of von Rundstedt's operational reserve) as local reserves. He envisioned the panzer forces reaching the landing site within three hours, hitting the Allies when they were the weakest, and thus winning the campaign on the coast. As the different plans were debated, Rommel invoked his right, as a Field Marshal, to direct access to Hitler, thus going over his superior's head.

When Hitler finally decided, the outcome was a compromise between the two proposals, one which had worse consequences than had either of the plans been followed. To be sure, the coastline was defended as strongly as time and resources would allow. By June, 1944, there were 16,000

bunkers, 4 million mines, and 37 divisions along the Atlantic Wall.⁽⁴⁴⁾ But of the ten panzer divisions available in France, Hitler ordered three to support Rommel's Army Group B and three to Army Group G. The other four panzer divisions, previously von Rundstedt's operational reserve, became "a strategic reserve of the Armed Forces High Command"(OKW).⁽⁴⁵⁾ Thus Hitler's solution permitted "a graduated operation along the coast and in the rear as suggested by von Rundstedt but...weakened the reserves to such an extent that von Rundstedt's desire 'to attack with armored masses thrust in the most strategically advantageous direction' would probably have been impossible to implement."⁽⁴⁶⁾ When the D-Day invasion took place, the German panzer divisions were disposed as follows:⁽⁴⁷⁾

In OKW Reserve	1(SS) Pz Div	Antwerp-Liege
	12(SS) Pz Div	West of Paris
	Pz Lehr Div	SW of Paris
	19 Pz Div	Holland
In Ob West Reserve	Nil	
In Army Group B Reserve	21 Pz Div	Caen (for 7th Army)
	2 Pz Div	Amiens (to 15 Army)
	116 Pz Div	East of Seine (to 15th Army)
In Army Group G Reserve	2(SS) Pz Div	Toulouse
	11 Pz Div	Bordeaux: refitting
	9 Pz Div	Avignon: refitting

The matrix above easily demonstrates the lack of a mobile operational reserve in the defense of France. Rommel, though commanding an Army Group, intended to fight a tactical battle wherever the invasion took place. And the four divisions under OKW's direction were to be released by Hitler as a strategic reserve. Von Rundstedt had nothing. "In short, operational flexibility had been curtailed without

achieving a decisive thickening of the coastal defence." (42)

By the time the Allies landed in Normandy, the ability of the Germans to move their reserves had truly been curtailed by US and British airpower. On 21 May, bombers had destroyed all 24 bridges over the Seine River north of Paris and another 12 across other important rivers. (43) On D-Day itself, another 38 bridges across the Loire were bombed. (50) Furthermore, the superb Allied deception plan kept many Germans generals thinking that Normandy was a feint and the main attack would yet come at the Pas de Calais, thus further confusing the reserve issue. In the final analysis, the panzer divisions were hurled at the Allied landing forces as mobility and strategic decisions would allow; as history recorded, there was no operational counterstroke and the invasion forces indeed succeeded in landing ashore. At the tactical level, the German "armored divisions...reached the beachhead one-by-one and too late. They dissipated their energies and suffered heavy losses. Their firepower and mobility had not been used to best advantage." (50) It was, however, a close contest. Says one historian, "The prompt arrival of just one more fully equipped, unweakened, over-strength panzer division...would have turned the invasion back into the water." (51)

H. The Defense of NATO Center

The expected nature of combat in a mid-intensity war today has many parallels to the campaigns just discussed. Indeed, the central European theater of NATO, sometimes called

the NATO Center, serves as a worthy laboratory for an examination of the mobile defense. War in this region between the NATO and Warsaw Pact forces would be heavily armored and mechanized. More important, the Pact would have the early initiative normally possessed by the attacker. It must be remembered that the ultimate aim of NATO is to maintain the integrity of the existing borders; thus, NATO forces would be initially defending, in the simplest meaning of the word.

NATO has not always had a "forward defense" doctrine. Following the Allied victory ending World War II, Field Marshal Montgomery, by then the Chief of the Imperial General Staff, said in January, 1948, of a European defense, "We must agree that, if attacked, the nations of the Western Union will hold the attack as far to the east as possible," (obviously against the Soviet Union.)⁽⁵³⁾ Says one author, "Thus, at the operational level of war, Montgomery should be credited with being the fundamental proponent of forward defense."⁽⁵⁴⁾ In practice, however, the Western European Union Defense Organization began planning for a mobile defense. While the long-term plan envisioned 100 divisions in a linear defense along the East German border, practical considerations demanded otherwise, and a final defense along the Rhine or even the Pyrenees was eventually proposed. By 1950 NATO officially adopted a forward defense, but in practice "the solution was a mobile defense" with a delay from the Inter-German Border to the Rhine, a defense along the Rhine, and mobilization and a counteroffensive from the US, Britain, and Canada.⁽⁵⁵⁾ Around 1952, when the NATO nations recogniz-

ed that they needed military assistance from West Germany to defend against the Warsaw Pact, the scheme shifted again to a forward defense. Since the Germans were not prepared to yield their own territory, for them "a mobile defense was not an adequate return on the investment of Germans to rearm themselves." (26) By the mid-1950's, the plan had jelled: NATO would defend forward, and those deployed units would be the "trip-wire" to invite a tactical (non-strategic) nuclear response to a Pact attack. Today, with at least some military critics rejecting the nuclear option, the mobile defense is getting a new look.

P.H. Vigor, in Soviet Blitzkrieg Theory, analyzes the Soviet military tradition and predicts what a Soviet attack would therefore be like against the NATO Center. For a number of reasons the Soviets would have to win such a war quickly, so he anticipates a partial surprise attack (roughly 48 hours of mobilization) from a "standing start." Just as in their Manchurian campaign of 1945, the attack would be a heavy initial blow from numerous directions, capitalizing upon speed and taking full advantage of "Fifth Column" activities in the NATO rear. The initial attack would aim at splitting the Alliance; paralyzing nerve centers such as command and control facilities, nuclear weapons sites, airfields, and ports; and reaching the final objectives before NATO decision makers had time to exercise a nuclear option. In addition, the Soviets would employ long, deep, rapid attacks well into the NATO rear by Operational Maneuver Groups (OMG's). The latter, while offering the chance of a

quick victory to the Pact, are ripe for a counterstroke. (57)

"The whole campaign, indeed, is a race for time--time for NATO to get to its preferred positions, time for the Russians to hit NATO before it has succeeded in doing so." (58)

General Starry echoes Vigor's theory. "Soviet-style operational concepts embrace two fundamental concepts: In the first, mass, momentum, and continuous combat are the operative tactics. Breakthrough is sought as the initiator of the collapse in the defender's defense system....In the alternative, surprise is substituted for mass." (59)

All of this means that NATO will have to fight outnumbered against a highly armored/mechanized force which demands rapid thrusts for a quick victory. In short, a slow-paced, attrition-style war may be fatal for NATO. Some theorists "maintain that the Pact, by concentrating overwhelming force at specific points, can easily pierce NATO's linear-shaped defense. Once this is accomplished, these analysts claim that NATO is doomed, since it does not have adequate reserves for dealing with a large-scale breakthrough." (60) The challenge is formidable indeed.

Our difficulties differ in manifestation but not in nature from those Alexander experienced or Caesar knew.
George S. Patton, Jr. 1927 (1)

Do not be deceived that these examples are the ghosts of the dead who have no place in the world of the living! Ideas do not die! Intellectual values are imperishable!

Charles Willoughby, Maneuver in War (2)

IV. EVALUATION

A. The History of the Counterattack

From the historical examples illustrated here, it should be apparent that agility and mobility are two necessary factors in the successful execution of a counterattack and, more important, a counterstroke. Because of its mobility differential, army aviation is the successor to the tank (and the horse cavalry before it) in the conduct of the counterattack. As Richard Simpkin stated when discussing the evolution of battlefield mobility, "Rotor is to track as track is to boot." (3)

B. Maneuver and the Mobile Defense

Alford, in a detailed examination of the mobile defense, has postulated that there are certain prerequisites to it:

It therefore seems fair to conclude that unless all or most of these six conditions can be deemed to be met - willingness to surrender ground, high relative mobility, suitable terrain, the impossibility of positional solution, high proficiency and enemy in a hurry, can a defending commander view with any kind of equanimity the adoption of a mobile solution to defence. (4)

As evidenced in the historical examples given, mobility has played a key role in ensuring that the requisite firepower arrived in a timely manner to conduct a successful counter-stroke. Napoleon

achieved his mobility through surprise and a dramatic cavalry charge. Lee's counterstroke at Bull Run resulted from the haste of Longstreet's fresh troops pitted against the exhausted, frustrated Union attackers. At Tannenberg the Prussian defenders overwhelmed the disorganized, separated Russians, holding off one force while massing to annihilate the other. They owed the victory to the agility of a superior command and control system and the mobility of interior lines, better roads, and a well-employed railroad. Manstein recognized the inevitability of Russian penetrations and used his mobile panzer divisions for a dramatic counterstroke while keeping his foot-mobile infantry deployed along the front. Von Rundstedt found, on the other hand, that the Allied air campaign provided the bombing and interdiction to prevent his counterattack forces from reaching the decisive point in a timely manner. Thus agility, the greatest component of which is mobility, was fatally absent in the German defense.

C. The Operational Level and Maneuver

It is appropriate, today, that the operational level of war receive a new look as the nuclear option becomes less acceptable. Particularly in the the NATO Center, an operational plan thus is increasingly significant. But Richard Simpkin is one theorist who suggests that the army group commanders in NATO do not have the resources for a fluid defense above the tactical level. "The most they can do is co-ordinate and support the various national corps battles....As the Germans would see it there is no operational reserve and thus no operational level." (5)

If there is to be an operational level of war in the NATO

center, and if attrition theory against the Warsaw Pact is an unacceptable option, then it follows that a mobile defense (including the counterstroke) may well be the call of the future. General Starry observes that the larger force is not always the victor. "By far the majority of winners in battles in which the beginning force ratios were generally within...reasonable limits... were those who somehow seized the initiative from the enemy, and held it to battle's end. Most often the initiative was successfully seized and held by maneuver."⁽⁶⁾ Says Simpkin, "The successful application of maneuver theory turns on speed and precision of response, doubly so when one bears in mind the effect of Clausewitzian friction."⁽⁷⁾ The significance of mobility and agility is evident. Indeed, the side with a distinct mobility differential, particularly with its mobile, uncommitted reserve, possesses the de facto advantages of interior lines on the battlefield despite the handicaps that geography might otherwise create.

D. Defense of the NATO Center

There seems to be little doubt that a strong enough attacker has the capability to penetrate his opponent's defense if he masses enough combat power at his intended point of rupture. Soviet General Vorob'yev writes that of the triad of firepower, strike, and mobility, it is firepower which dominates Russian doctrine.⁽⁸⁾ But if a penetration by the Warsaw Pact is both possible and presumed, then it matters little whether or not we, as NATO defenders, intended it to be so as part of a mobile defense. The key is to seek advantage from such a penetration as if it were part, indeed,

of the operational plan. In that manner, we could follow the advice of General von Mellenthin: "There are no absolute safeguards against strong, concentrated attacks by mobile mechanized forces. Successful defense rests on the disposition of the mobile and combat-ready reserves and the drive and energy of their counterattacks to destroy attacking enemy formations...." (9)

Alford cautions that, particularly in Central NATO, "the (greater the) speed with which the counter-stroke can be launched and can complete its task of annihilation the greater its chances of survival to repeat the process" at a new time and place. (10) Hence the need for increased mobility of a counterattack force in the NATO Center, a mobility possessed by aviation.

Not only does the NATO Center need a mobile reserve, it needs a mobile reserve at the operational level. The prospect of snatching divisions already in contact, in a grand active defense, is tenuous at best, particularly in a multinational context. Certainly such forces would be woefully lacking in adequate mobility to deal with a penetration, much less an Operational Maneuver Group. The Soviets, it must be remembered, have developed a relatively rigid system of troop control, but one which employs directive control, automation, norms, and wargame analysis to reduce friction as much as possible. This troop control system, coupled with the advantages gained from a doctrine of echelonment, is designed to make Soviet maneuver progress predictable (to them) and rapid. Additionally, the OMG is a formation specifically designed for high-tempo, deep maneuver with operational goals.

Furthermore, it is a risky proposition to assume that a corps deployed from the United States would arrive in time in the NATO

Center, given the likelihood of a Pact "standing start" attack preceded by a requisite degree of phony diplomacy. It would be equally risky to assume that the French military would be totally available as a NATO Center reserve, however much France might depend on NATO as a recipient of a "public good." The answer is an in-place, highly mobile reserve force capable of conducting a mobile defense at the operational level of war as part of NATO's strategic plan.

E. Aviation as an Operational Reserve

It is now suggested, given von Senger's discussion on the tiers of mobility, that a reserve force with the mobility needed to fight a mobile defense in the NATO Center must be one of aviation. Indeed, counterstroke operations are nearly impossible without a mobility differential, and such mobility is scarcely achievable between like forces unless a very significant difference in agility exists.

In his dicta, Rommel stated that "it is the extent to which one can concentrate one's forces, both in space and time, that counts in motorized warfare."⁽¹¹⁾ Like Napoleon who had his corps move dispersed and fight concentrated, it is the ability to concentrate, which James Schneider calls "the efficient temporal and spatial massing, deployment, and projection of superior military force, against the enemy, at the decisive time and point"⁽¹²⁾ that allows a small force to defeat a larger one. In the high-firepower battleground of the NATO Center, survival may well depend upon staying dispersed as long as possible, and concentrating at the last moment. Additionally, once done, "it is extremely difficult to

'unconcentrate;' therefore, armies that wait until the last instant to concentrate have a certain flexibility vis-a-vis a force that has already concentrated."⁽¹³⁾ The mobility integral to aviation will meet this need.

The OMG presents an even greater challenge to the mobile defense and counterstroke tactics. One writer proposes that the best means of defeating an OMG is by striking its center of gravity: momentum. In order to do so, the counterstroke element would need a greater mobility, but "since the OMG is probably the fastest operational force on the battlefield, any such requirement would be difficult to fulfill."⁽¹⁴⁾ The solution, again, will be found in the air.

F. Airmechanization: A Possible Solution

Before proceeding further, the issue of airmechanization should be addressed, for its very design will be proposed as a solution to the dilemma of defending against a Soviet attack. It must be stressed that rather than a tightly defined structure, airmechanization is a concept which "is an extension of the mechanized battlefield into a third dimension above the battlefield and must be viewed as a whole, not a separate entity."⁽¹⁵⁾ It does not imply autonomous missions like those often conducted by the Air Force, but rather is closely linked with the ground fight; it involves "the use of helicopters in independent operations within the main mechanized battle--hence the term, 'airmechanized.'"⁽¹⁶⁾ In essence it "is a way of fighting at a higher level of mobility and a higher order of combined arms warfare."⁽¹⁷⁾

One of the theorists advocating the airmechanized force is German General von Senger und Etterlin, the same officer who

explained the tiers of mobility concept described in Chapter 2. He envisions a pure aviation force in that it is not tied to any level of ground mobility. His structure for a division centers around the airmechanized brigade, a strong fighting force containing its own anti-armor, anti-helicopter, intelligence, air defense, and reconnaissance. Von Senger's division would also have an air-mobile brigade of light infantry units and an airtransport brigade to move the infantrymen and the logistics of the division. He focuses his fighting ability on what he calls the Main Battle Air Vehicle (MBAV), a high-technology rotary wing machine.

Brigadier Richard Simpkin also proposes an airmechanized force which he centers around the airmechanized brigade, but he has modified the structure to include either air-transportable or accompanying fast, light armored attack vehicles. In both cases, the concept "will signify the intimate cooperation of armor and helicopters at tactical and lower operational levels, with the possibility of pure helicopter missions at a tactical level."⁽¹⁸⁾ As von Senger sees the primary role of the airmechanized division being the reserve for army group or theater, the significance of its link to the operational level of war becomes obvious. Both of these apostles of airmechanization "understand the significance and implications of superior mobility and firepower to the field army commander and further acknowledge that tactical and operational success has been virtually inconvertible for the battlefield commander who capitalized on both components concurrently."⁽¹⁹⁾

G. The Airmechanized Division

Alford distinguishes between potential mobility and kinetic mobility; the former is the raw capacity to move at a certain speed.

The latter is the translation of this potential, through the application of agility, into demonstrated mobility.⁽²⁰⁾ It is likely that an airmechanized force of division size is the best means of achieving this agility at the operational level. The division structure would grant the requisite staffing, commander, intelligence interface, and command and control measures required to function operationally without sacrificing agility.

The division structure has other advantages, as well. Unlike the attack battalions organic to a corps aviation brigade, piecemealing the assets of a type division proposed by Simpkin or von Senger would be unlikely. Furthermore, these divisions would contain their own air-transportable service support. Additionally, the division base would permit a greater degree of organic combined arms application which would be vital for such an independently operating force. While some systems are yet to be developed which are air-moveable, there is no time to rest until they are. As the Soviets believe in the practice of "negation of the negation," it is wise to assume that, recognizing a NATO airmechanized threat to their attacks, they would quickly develop anti-helicopter systems to accompany their front line.

One Soviet theorist has claimed that a coalition, with its inherent problems, "is always less than the sum of its parts."⁽²¹⁾ Hence an operational reserve in the NATO Center could do much to bolster any coalition interface problems. Though it would require special training and personnel selection, an airmechanized division of multinational elements could greatly solidify portions of the alliance.

There is, however, a cost to this type of structure, just

as there was a cost to tank divisions as they compared to regular infantry. The cost is endurance. As Simpkin advises us, "For an order of operational mobility you pay an order of endurance." (22) Such is the challenge of new doctrine and the operational art. One British officer remarked in 1938, "Mechanization is a means to move men and guns more swiftly-- a headache-creating nuisance to the generals whose brains perforce must work more swiftly than of yore." (23)

For generations, the offensive has been the fetish of the military profession....apparently the defensive is still a stepchild, a military Cinderella, while it represents in reality the highest form of military leadership in establishing a proper balance between the defensive and the offensive.

Charles Willoughby, Maneuver
in War, 1939 '1'

V. CONCLUSION

This paper started from the proposition that attrition warfare, at least in the NATO context against a Warsaw Pact force, is an increasingly unacceptable approach to combat. As a result, there is a growing number of theorists who advocate a return to a maneuver style of war for the US Army. If indeed the US adopts such a maneuver style, then it appears, given the generally non-aggressive political nature of US military involvement, that the mobile defense is the preferred doctrine for the American Army. In fact, this statement is also true of NATO as a whole, since the purpose of the alliance is to deter aggression and maintain the territorial integrity of the existing borders.

As has been shown in Colonel Alford's model, there are several facets to a mobile defense. If one takes as imperative the AirLand Battle tenet of initiative, then it appears that the facets of ambush and counterstroke are most useful. Furthermore, given the military power of the Soviet Union, it seems almost a certainty, that were it to attack the NATO Center, the Warsaw Pact could achieve several operational penetrations. Thus the facet of the mobile defense most likely to be required is that of the counterstroke. In order to be successful, a counterstroke force must have significant mobility and agility. As Willoughby observed even in 1939, "Obviously the whole tempo of warfare has changed;

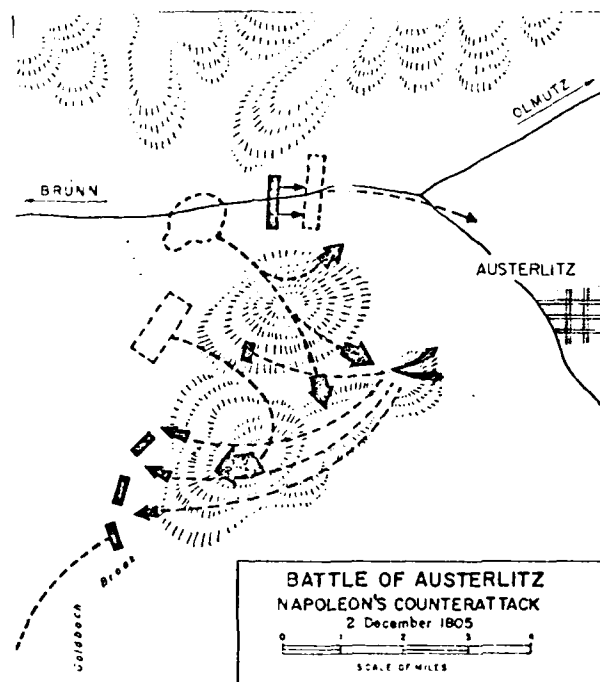
every activity is accelerated. The sluggish opponent will defeat himself. The premium is on fast-thinking staffs and a military machine capable of operating at high speed."⁽²⁾

The dilemma is in von Senger's tiers of mobility. If indeed there is no true second tier today capable of operating at a level of magnitude of mobility greater than the bulk of the force, then the mobile defense and counterstroke potential is fraught with problems. There is a solution, for the combat aviation of the army has such a mobility.

Concomitantly, there is a return to the dynamics of the operational level of war as the nuclear option is no longer its substitute. Hence, in this mobile defense enterprise, there needs to be a force at the operational level with such agility and mobility that it can execute the full spectrum of the mobile defense, and the counterstroke in particular. Again the solution is in army combat aviation, this time within the concept of air-mechanization and at the level of a division. Herein lies the answer to mobility, agility, the operational level, the mobile defense, and the counterstroke: the airmechanized division as an operational force.

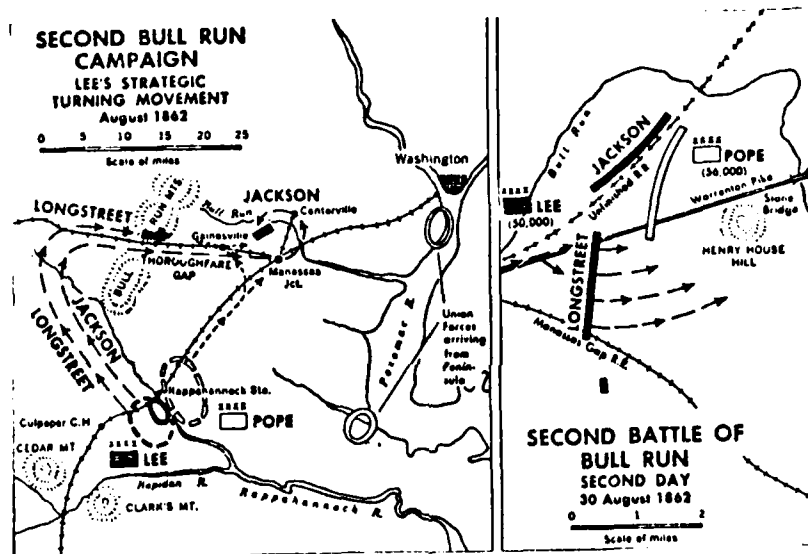
All of this has a price, however. It requires a new approach to warfare, or at least a fresh perspective, revisited by one of the great German generals from the Eastern Front. When General Balck spoke of the threat of a Soviet tank division in his rear, he did not panic. His frame of mind was "...the further the enemy goes, the greater the opportunity for his destruction."⁽³⁾

MAP A



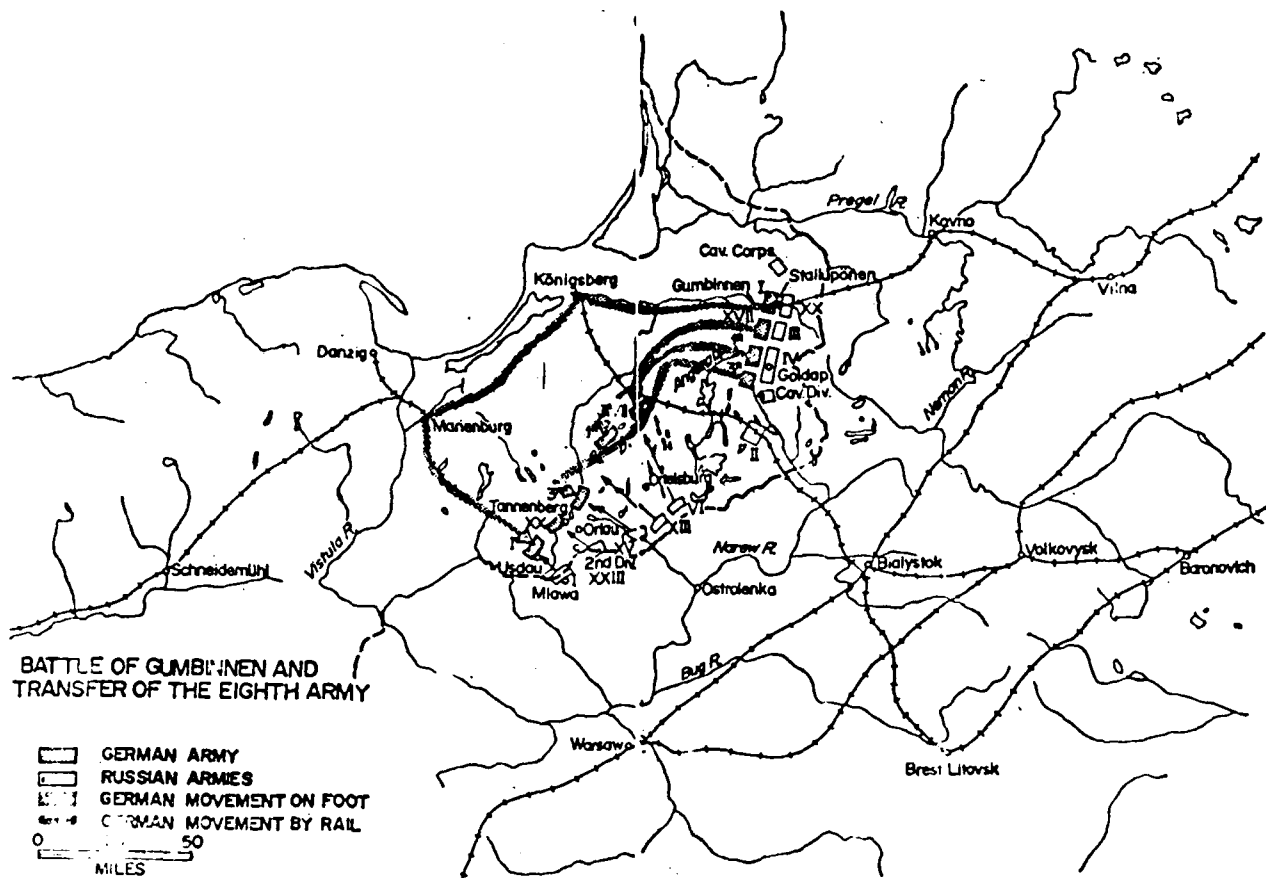
Source: Notes for the Course in the History of the Military Art (USMA)

MAP B



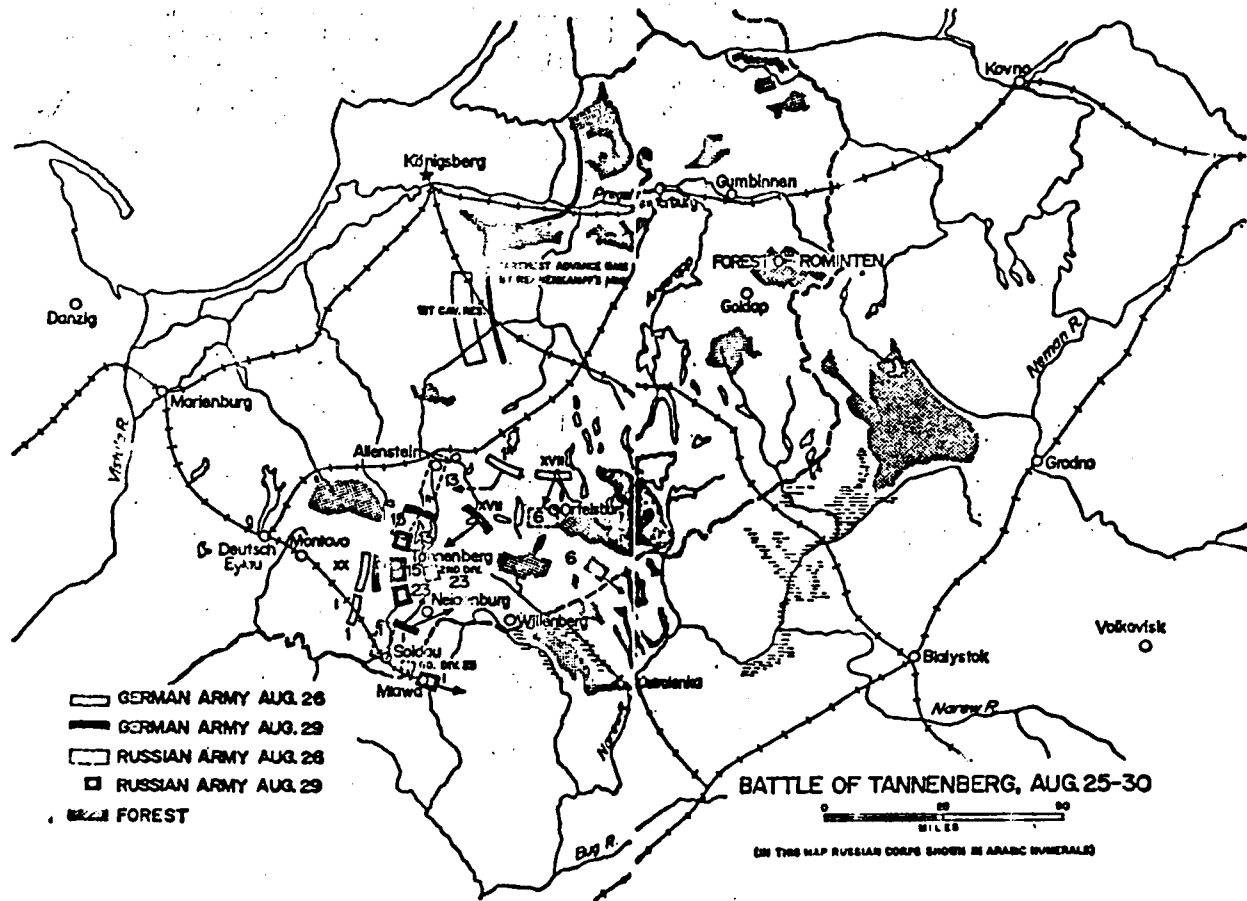
Source: The Encyclopedia of Military History

MAP C



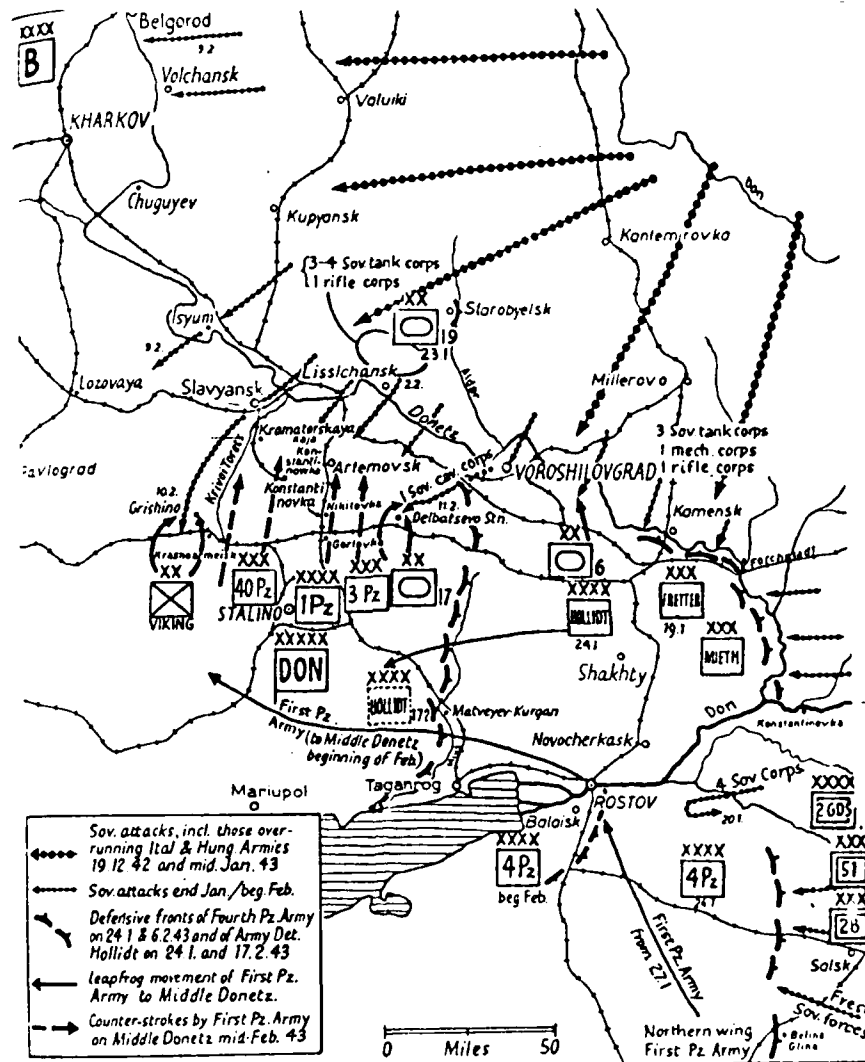
1914: The Plans of August

MAP D



Source: The Guns of August

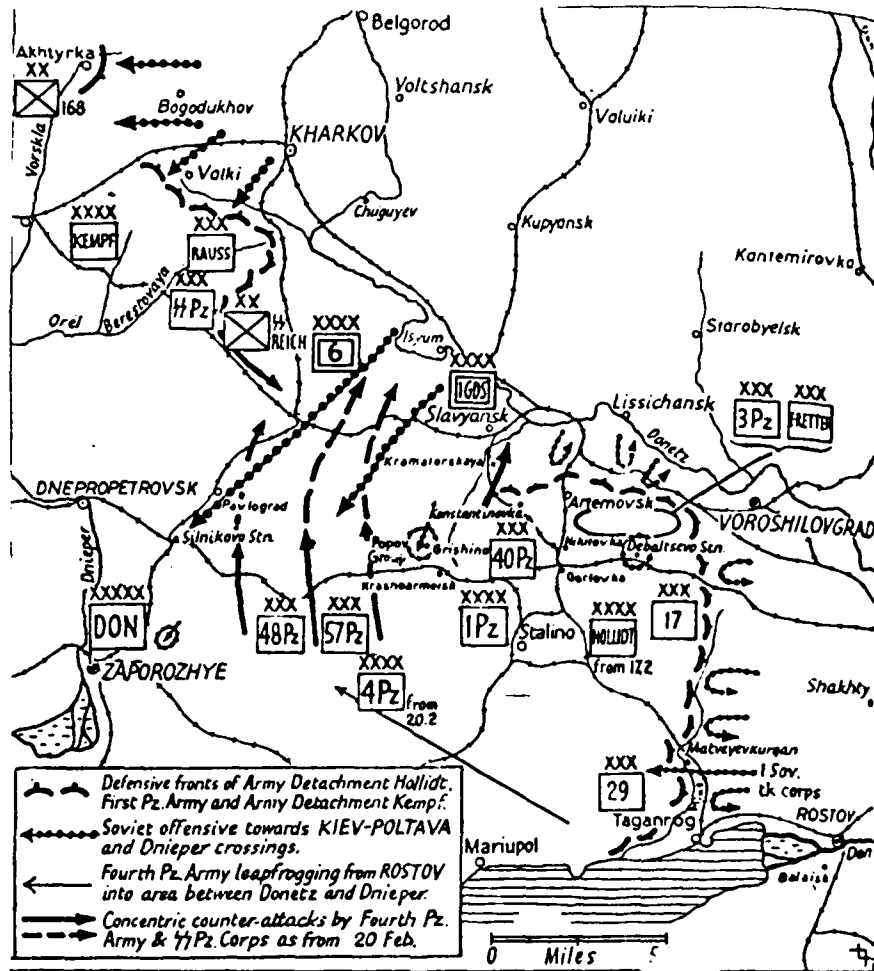
MAP E



Map 17. Winter Campaign 1942-3: Don Army Group's Battles to keep Communications Zone free.

Source: Lost Victories

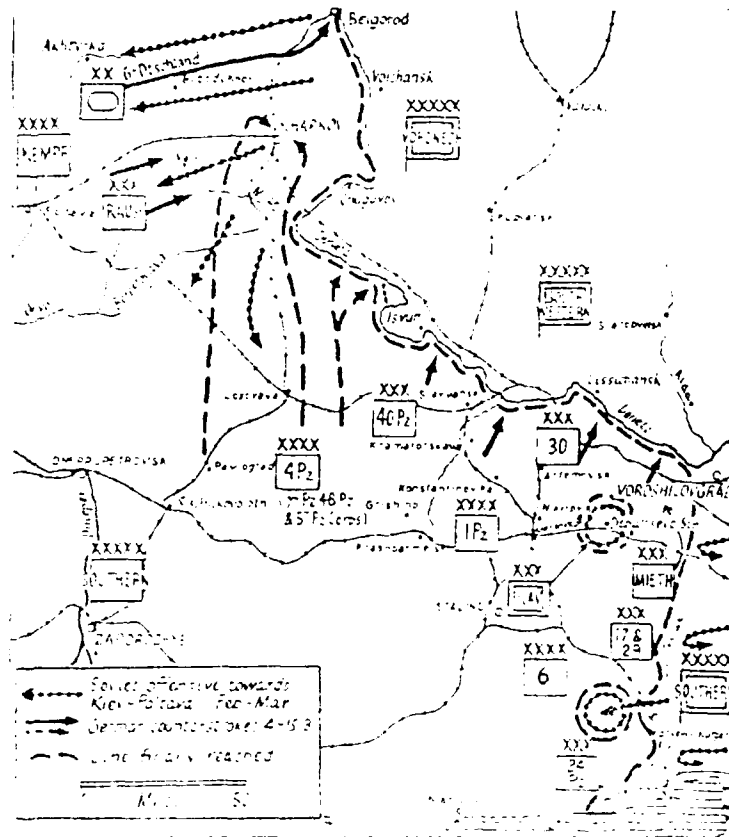
MAP F



Map 18. Winter Campaign 1942-3: German Counterstroke, the Battle between Donetsk and Dnieper.

Source: Lost Victories

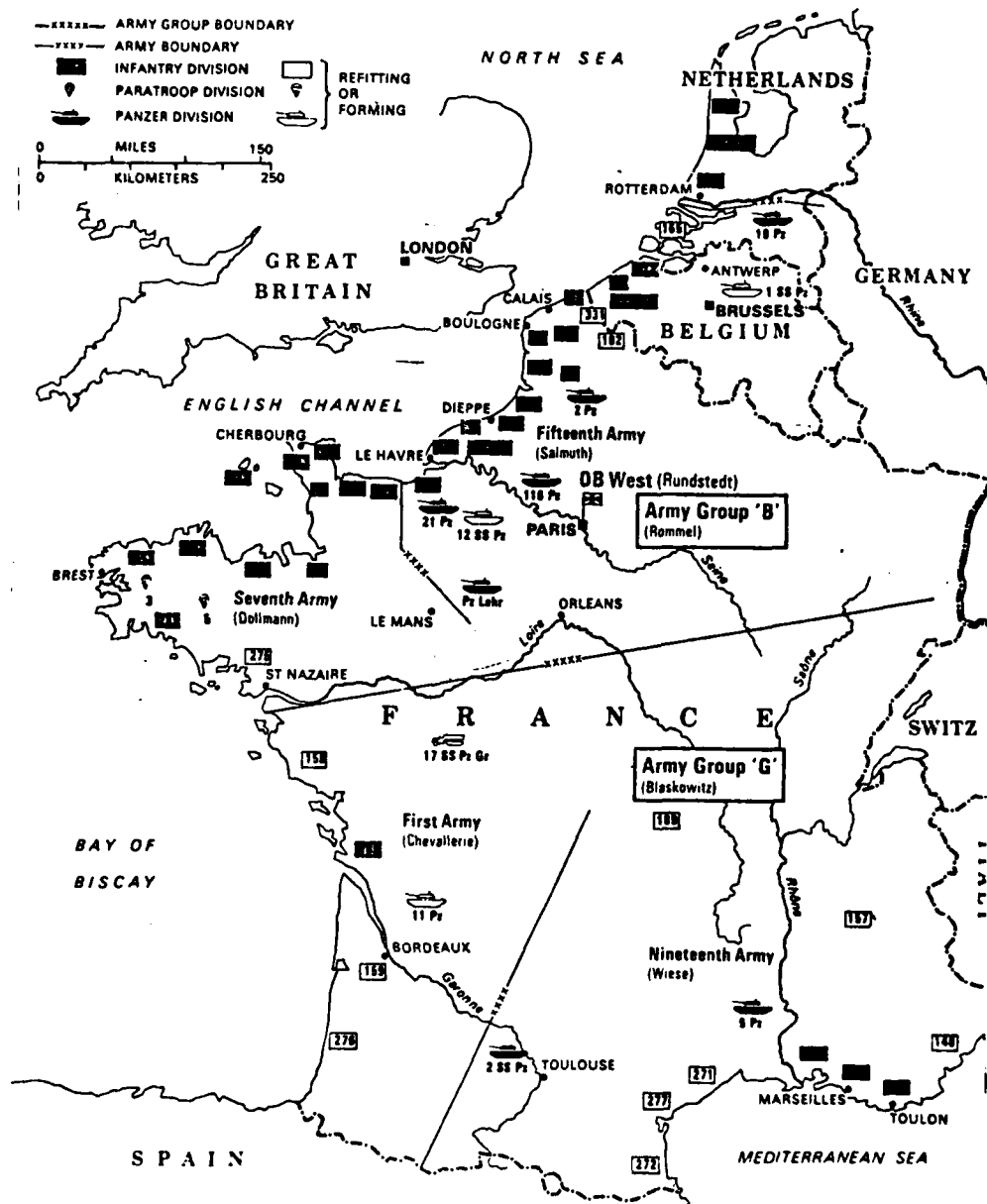
MAP G



Map G. Military operations in the Kiev region, 1941.

Source: Lost Victories

MAP H



Source: Atlas Of World War II

ENDNOTES

CHAPTER I (INTRODUCTION)

¹"The War on Land," Army and Navy Gazette and Broad Arrow, 13 April 1918. Republished in The International Military Digest Annual (1918), p. 216.

CHAPTER II (PROBLEM ANALYSIS)

¹COL Robert D. Heinl, Jr. Dictionary of Military and Naval Quotations (Annapolis, MD: United States Naval Institute, 1985), p. 69.

²Ibid., p. 218.

³Several writers, including historian Russell Weigley and US Senate staff assistant Bill Lind, claim that the US Army's doctrine has been traditionally firepower-attrition dominated.

⁴B.G. Dale O. Smith, U.S. Military Doctrine (New York: Duell, Sloan, and Pearch, 1955), p. 165.

⁵Roger A. Leonard (ed.), A Short Guide to Clausewitz (New York: Capricorn Books, 1968), p. 196.

⁶Ibid., p. 193.

⁷Carl von Clausewitz, On War Edited and translated by Michael Howard and Peter Paret. (Princeton, NJ.: Princeton University Press, 1984), p. 360.

⁸Leonard, p. 33.

⁹Casyndekan, Inc., Clausewitz Casyndekan, A Staff Project of Casyndekan, Inc. (Denver: A.B. Hirschfeld Press, 1969), p. 453.

¹⁰U.S. Department of the Army, Operations, Field Manual 100-5 (draft) (Fort Leavenworth, KS: USACGSC, July, 1985).

¹¹MAJ George S. Webb, "The Flashing Sword of Vengeance: The Force-Oriented Counterattack from a Historical Perspective with Implications for the Airland Battle and Combat Aviation" (Unpublished USACGSC MMAS Monograph, 1985).

¹²Richard Simpkin, Tank Warfare, An Analysis of Soviet and NATO Tank Philosophy (London: Brassey's Publishers, Ltd., 1979), p. 15. (Forward by General von Senger).

¹²Von Senger speaks of only one tier of mobility being present today (mechanization/motorization) and says that aviation could be the second tier. If one includes light (foot mobile) infantry into the equation (which von Senger does not) then there are three tiers of mobility. This latter distinction is more commonly used in the U.S. Army.

CHAPTER III (BACKGROUND AND EVIDENCE)

¹Heinl, p. 82.

²Ibid., p. 83.

³Webb, pp. 6-7.

⁴John J. Mearsheimer, "Maneuver, Mobile Defense, and the NATO Central Front," International Security, Winter 1981/1982, p. 105.

⁵Mao Tse-Tung, On Protracted War, SAMS-CGSC Reprint, Ft. Leavenworth, KS., pp. 249-50.

⁶Richard E. Simpkin, Race to the Swift: Thoughts on Twenty-First Century Warfare (London: Brassey's, 1985), p. 229.

⁷Ibid., p. 99.

⁸U.S. Department of the Army, Operations, Field Manual 100-5 (Final Draft) (Fort Leavenworth, KS: USACGSC, 28 Oct 1985), p. 2-7.

⁹Simpkin, Race to the Swift, p. x.

¹⁰COL. J.R. Alford, "Mobile Defence: The Pervasive Myth, A Historical Investigation," (Unpublished Thesis, Department of War Studies, King's College, London, 1977), p. 7.

¹¹Alford, p. 70.

¹²Alford, p. 126.

¹³Webb, p. 1.

¹⁴Dr. Robert M. Epstein, "The Different Levels of War in the Napoleonic Period--Austerlitz and Friedland, (Unpublished Monograph for Combat Studies Institute, USACGSC, March, 1984), p. 9.

¹⁵MAJ John A. Bonin, "Combat Copter Cavalry: A Study in Conceptual Confusion and Inter-Service Misunderstanding in the Exploitation of Armed Helicopters as Cavalry in the U.S. Army, 1950-1965" (Unpublished Master's Thesis, Duke University, 1982), p. 13.

¹⁶Epstein, p. 5.

¹⁷Ibid., p. 19.

¹⁸R.F. Delderfield, Napoleon's Marshalls (New York: Stein and Day, 1984), p. 82.

¹⁹COL. R. Ernest and Trevor N. Dupuy, The Encyclopedia of Military History from 3500 BC to the Present (New York: Harper and Row, 1970), p. 749.

²⁰Bvt Maj. Harold G. Eady, Historical Illustrations to Field Service Regulations, VOL II (London: Sifton Praed & Co, Ltd, 1926), p. 96.

²¹BG. Vincent Esposito, Chief ed. The West Point Atlas of American Wars (New York: Frederick A. Praeger, 1967), p. 59.

²²Ibid., p. 60.

²³Ibid., p. 61.

²⁴Alford., p. 31.

²⁵Barbara W. Tuchman, The Guns of August (New York: Bantam Books, 1980), p. 333.

²⁶Ibid., p. 321.

²⁷Ibid., p. 323.

²⁸Alford, p. 39.

²⁹James L. Stokesbury, A Short History of World War I (New York: William Morrow and Co, Inc., 1981), p. 67.

³⁰Tuchman, p. 313.

³¹Alford, p. 49.

³²LTC David M. Glantz, "From the Don to the Dnepr: A Study of Soviet Offensive Operations, Dec 1942-Aug 1943," (Unpublished study reprinted for SAMS and USACGSC, Ft. Leavenworth, KS., 1985), p. 143.

³³Erich von Manstein, Lost Victories (Novato, CA: Presidio Press, 1982), p. 420.

³⁴Ibid., p. 441.

³⁵COL. Dwight L. Adams, "Strategic Defensive Concept of Field Marshall Erich von Manstein," USAWC: The Art of War Quarterly Volume III, February 1984, p. 53.

³⁶Glantz, p. 164.

³⁷Von Manstein, p. 279.

³⁸Alford, p. 147.

³⁹Ibid., p. 152.

⁴⁰Dieter Ose, "Rommel and Rundstedt: The 1944 Panzer Controversy," Military Affairs, January, 1986, p. 8.

⁴¹Ibid., p. 10.

⁴²Henry D. Lytton, "Bombing Policy in the Rome and Pre-Normandy Invasion Campaigns of World War II," Military Affairs, April, 1983, p. 56.

⁴³Alford, p. 159.

⁴⁴Ose, p. 8.

⁴⁵Ibid., p. 10.

⁴⁶Ibid.

⁴⁷Alford, p. 167.

⁴⁸Ibid., p. 168.

⁴⁹Ibid., p. 172.

⁵⁰Lytton, p. 55.

⁵¹Ose, p. 10.

⁵²Lytton, p. 55.

⁵³James A. Blackwell, Jr., "In the Laps of the Gods: The Origins of NATO Forward Defense," Parameters, Winter, 1985, p. 66.

⁵⁴Ibid.

⁵⁵Ibid., p. 69.

⁵⁶Ibid., 70.

⁵⁷P.H. Vigor, Soviet Blitzkrieg Theory (New York: St. Martin's Press, 1983). No particular page cited; these are recurring themes throughout the book.

⁵⁸Ibid., p. 199.

⁵⁹Simpkin, Race to the Swift, ,p. ix.

⁶⁰Mearsheimer, p. 106.

CHAPTER IV (EVALUATION)

¹William J. Woolley, "Patton and the Concept of Mechanized Warfare," Parameters, Autumn, 1985, p. 72.

²LTC Charles A. Willoughby, Maneuver in War (Harrisburg, PA: The Military Service Publishing Co., 1939), p. 117.

³Simpkin, "An Airmechanized Force for the 90s," p. 54.

⁴Alford, p. 280.

⁵Simpkin, Race to the Swift, p. 304.

⁶Ibid., p. x.

⁷Ibid., p. 268.

⁸Hung P. Nguyen, "Soviet Thinking on the Next Land War," Parameters, Winter, 1985, p. 42.

⁹F.W. von Mellenthin and RHS Stolfi with E. Sobik, NATO Under Attack (Durham, NC: Duke University Press, 1984), p. 68.

¹⁰Alford, p. 23.

¹¹Ibid., p. 71.

¹²James J. Schneider, "The Exponential Decay of Armies in Battle" (Unpublished paper for CAORA, Ft Leavenworth, KS, 1985), p. 38.

¹³Ibid., p. 45.

¹⁴MAJ David M. Tankaley, "What is the Soviet Operational Maneuver Group and What are its Implications for the U.S. Army's AirLand Battle Doctrine?" (Unpublished USACGSC MMAS Thesis, 1984), p. 122 and 127.

¹⁵MAJ Virgil L. Packett II, "Airmechanization: The Direction and Dynamics of Army Aviation from a Combined Arms Perspective" (Unpublished USACGSC Master of Military Arts and

Science (MMAS) Thesis, 1985), p.2.

¹⁶Richard Simpkin, "An Airmechanized Force for the 90's," Armor, July-August 1981, p.54.

¹⁷Packett, p.3.

¹⁸Richard Simpkin, "Flying Tanks? - a tactical-technical analysis of the 'main battle air vehicle' concept," Military Technology, August, 1984, p.63.

¹⁹MAJ Carlton L. Hood, "Determining the Optimum Aviation Organization for the Operational Level of War" (Unpublished USACGSC MMAS Thesis, 1984), p.49.

²⁰Alford, p. 28.

²¹Nguyen, p. 46.

²²Simpkin, "Flying Tanks," p. 67.

²³Norman MacMillan, The Chosen Instrument (London: Unwin Brothers, Ltd., 1938), p. 48.

CHAPTER V (CONCLUSION)

¹Willoughby, p. 108.

²Ibid., p. 266.

³"Generals Balck and von Mellenthin on Tactics: Implications for NATO Military Doctrine." (Unpublished report for OSD by the BDM Corp., McLean, VA, 1980), p. 31.

BIBLIOGRAPHY

BOOKS

- Casyndekan, Inc. Clausewitz Casyndekan, A Staff Project of Casyndekan, Inc. Denver, CO: A.B. Hirschfeld Press, 1969.
- Chandler, David T. The Campaigns of Napoleon. New York: MacMillan Publishing Co., Inc., 1966.
- Clausewitz, Carl von. On War. Edited and translated by Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1984.
- Delderfield, R.F. Napoleon's Marshals. New York: Stein and Day, 1984.
- Dupuy, COL R. Ernest and COL Trevor N. Dupuy. The Encyclopedia of Military History from 3500 BC to the Present. New York: Harper and Row, 1970.
- Eady, BVT MAJ Harold G. Historical Illustrations to Field Service Regulations, Vol II. London: Sifton Praed and Co, Ltd., 1926.
- Esposito, BG Vincent, Chief ed. The West Point Atlas of American Wars (2 vol's). New York: Frederick A. Praeger, 1967.
- Esposito, BG Vincent and COL John Elting. A Military History and Atlas of the Napoleonic Wars. New York: Frederick A. Praeger, 1964.
- Heinl, COL Robert D. Jr. Dictionary of Military and Naval Quotations. Annapolis, MD: United States Naval Institute, 1985.
- Leonard, Roger A., ed. A Short Guide to Clausewitz. New York: Capricorn Books, 1968.
- MacMillan, Norman. The Chosen Instrument. London: Unwin Brothers, Ltd., 1938.
- Mao Tse-Tung. On Protracted War (from a series of lectures, 1938). Reprinted for SAMS and USACGSC, Ft. Leavenworth, KS.
- Natkiel, Richard. Atlas of World War II. New York: The Military Press, 1985.
- Simpkin, Richard E. Race to the Swift: Thoughts on Twenty-First Century Warfare. London: Brassey's Defence Publishers, 1985.
- Simpkin, Richard E. Red Armour, An Examination of the Soviet

Mobile Force Concept. New York: Brassey's Defence Publishers, 1984.

Simpkin, Richard E. Tank Warfare, An Analysis of Soviet and NATO Tank Philosophy. London: Brassey's Publishers, Ltd., 1979.

Smith, BG Dale O. US Military Doctrine. New York: Duell, Sloan, and Pearce, 1955.

Stokesbury, James L. A Short History of World War I. New York: William Morrow and Co, Inc., 1981.

Tuchman, Barbara W. The Guns of August. New York: Bantam Books, 1980.

Vigor, P.H. Soviet Blitzkrieg Theory. New York: St. Martin's Press, 1983.

Von Manstein, Erich. Lost Victories. Novato, CA: Presidio Press, 1982.

Von Mellenthin, F.W., and RHS Stolfi with E. Sobik. NATO Under Attack. Durham, NC: Duke University Press, 1984.

Willoughby, LTC Charles A. Maneuver in War. Harrisburg, PA: The Military Service Publishing Co., 1939.

GOVERNMENT DOCUMENTS

Doughty, Robert A. The Evolution of U.S. Army Tactical Doctrine, 1946-76. Leavenworth Paper Series. Ft Leavenworth, KS.: Combat Studies Institute (CSI), U.S. Army Command and General Staff College (USACGSC), 1979.

Romjue, John L. From Active Defense to AirLand Battle: The Development of Army Doctrine 1973-1982. Ft Monroe, VA.: U.S. Army Training and Doctrine Command, 1984.

U.S. Department of the Army. Russian Combat Methods in World War II. DA Pamphlet 20-230. Washington, D.C.: GPO, 1950.

U.S. Department of the Army. German Defense Tactics Against Russian Breakthroughs. DA Pamphlet 20-233, October, 1951. Reprinted as a U.S. Army War College Art of War Colloquium Selected German Army Operations on the Eastern Front, Vol IV, 1983.

U.S. Department of the Army. Combat Aviation Operations. Field Manual 1-100. Washington, D.C.: GPO, 28 September 84.

U.S. Department of the Army. Attack Helicopter Operations. Field Manual 17-50. Washington, D.C.: GPO, 4 May 84.

U.S. Department of the Army. Operations. Field Manual 100-5. Ft Leavenworth, KS, USACGSC, July 1985 (draft).

U.S. Department of the Army. Operations. Field Manual 100-5. Ft Leavenworth, KS, USACGSC, 28 Oct 1985 (final draft).

ARTICLES AND PERIODICALS

Adams, COL. Dwight L. "Strategic Defensive Concept of Field Marshall Erich Von Manstein." Printed in USAWC Art of War Colloquium, The Art of War Quarterly Volume III. February, 1984, pp. 39-53.

Blackwell, James A., Jr. "In the Laps of the Gods: The Origins of NATO Forward Defense." Parameters. Winter 1985, pp. 64-75.

Lytton, Henry D. "Bombing Policy in the Rome and Pre-Normandy Invasion Aerial Campaigns of World War II." Military Affairs. April 1983, pp. 53-58.

McNair, MG Carl H. Jr. and CPT Joseph Reinsprecht. "Army Aviation Forces in the AirLand Battle." U.S. Army Aviation Digest. July 1981, pp. 6-13.

Mearsheimer, John J. "Maneuver, Mobile Defense, and the NATO Central Front." International Security. Winter 1981/1982, pp. 104-122.

Nguyen, Hung P. "Soviet Thinking on the Next Land War." Parameters. Winter 1985,, pp. 41-47.

Ose, Dieter. "Rommel and Rundstedt: The 1944 Panzer Controversy." Military Affairs. January 1986, pp. 7-11.

Simpkin, Richard. "An Airmechanized Force for the 90s." Armor. July-August 1981, pp. 54-57.

Simpkin, Richard. "Flying Tanks?--a tactical-technical analysis of the 'main battle air vehicle' concept." Military and Technology. August 1984, pp. 62-80.

"The War on Land," Army and Navy Gazette and Broad Arrow. 13 April 1918. Republished in The International Military Digest Annual (1918), p. 216.

Timmons, LTC Richard F. "Lessons from the Past for NATO." Parameters. Autumn, 1984, pp. 3-10.

von Senger und Etterlin, Ferdinand M. "New Operational Concepts." Journal of the Royal United Services Institute for Defense Studies, June 1983, pp. 11-15.

Woolley, William J. "Patton and the Concept of Mechanized Warfare." Parameters. Autumn 1985, pp. 71-80.

UNPUBLISHED MATERIAL

Alford, COL J.R., "Mobile Defence: The Pervasive Myth, A Historical Investigation." (Unpublished Thesis, Department of War Studies, King's College, London, 1977).

Bonin, MAJ John A. "Combat Copter Cavalry: A Study in Conceptual Confusion and Inter-Service Misunderstanding in the Exploitation of Armed Helicopters as Cavalry in the U.S. Army, 1950-1965." Unpublished Master's Thesis, Duke University, 1982.

Epstein, Dr. Robert M. "The Different Levels of War in the Napoleonic Period--Austerlitz and Friedland." Unpublished monograph for the Combat Studies Institute, U.S. Army Command and General Staff College (USACGSC), March, 1984.

"Generals Balck and von Mellenthin on Tactics: Implications for NATO Military Doctrine." Unpublished report for OSD by the BDM Corp, McLean, VA., 1980.

Glantz, LTC David M. "From the Don to the Dnepr: A Study of Soviet Offensive Operations, Dec 1942-Aug 1943." Unpublished study reprinted for SAMS and USACGSC: Ft. Leavenworth, KS., 1985.

Hood, MAJ Carlton L. "Determining the Optimum Aviation Organization for the Operational Level of War." An unpublished USACGSC Master of Military Arts and Science (MMAS) Thesis, 1984.

Packett, MAJ Virgil L. II. "Airmechanization: The Direction and Dynamics of Army Aviation from a Combined Arms Perspective." Unpublished USACGSC MMAS Thesis, 1985.

Schneider, James J. "The Exponential Decay of Armies in Battle." (Unpublished paper prepared for US Army CAORA, Ft. Leavenworth, KS., 1985.

Tanksley, MAJ David M. "What is the Soviet Operational Maneuver Group and What are its Implications for the U.S. Army's AirLand Battle Doctrine?" Unpublished USACGSC MMAS Thesis, 1984.

von Senger und Etterlin, LTG Ferdinand M. Closing remarks to a U.S. Army War College symposium, 3 May 1985. (Listed as USAWC tape #18).

Webb, MAJ George S. "The Flashing Sword of Vengeance: The Force-Oriented Counterattack from a Historical Perspective with Implications for the AirLand Battle and

Combat Aviation." Unpublished USACGSC MMAS Monograph,
1985.

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